

Aaliyah

Wǒ de Kē Xué Yán Jiū Tí Mù Shì Dòng Jié
我的科学研究题目是冻结

Does hot water freeze faster than cold water

Rè Shuǐ Dòng Jié Sù Dù Bǐ Lěng Shuǐ Kuài Ma
热水冻结速度比冷水快吗？

Problem

Wǒ de Kē Xué Yán Jiū Wèn Tí Shì
我的科学研究问题是

I want to find out whether hot, cold or warm water freezes faster because some people on the internet say that the hot water freeze faster so I want to test it out.

Wǒ Xiǎng Zhǎo Chū Shì Fǒu Rè Shuǐ Lěng Shuǐ Huò Wēn Shuǐ de Dòng Jié Sù Dù
我想找出是否热水，冷水或温水的冻结速度
Jiào Kuài Yīn Wéi Yǒu Xiē Rén Zài Hù Lián Wǎng Shàng Shuō Rè Shuǐ Dòng Jié de
较快，因为有些人在互联网上说热水冻结的
Sù Dù Jiào Kuài Suǒ Yǐ Wǒ Xiǎng Duì Tā Jìn Xíng Cè Shì Yī Xià
速度较快，所以我想对它进行测试一下。

Hypothesis

Wǒ de Jiǎ Shè Shì
我的假设是

I think that cold water will freeze the fastest because it is already cold and will take less time to freeze than the others.

Wǒ Rèn Wéi Lěng Shuǐ Dòng Jié de Sù Dù Zuì Kuài Yīn Wéi Tā Yǐ Jīng
我认为，冷水冻结的速度最快，因为它已经
Shì Lěng de Suǒ Yǐ Bǐ Bié de Zài Gēng Duǎn de Shí Jiān Nèi Jié Dòng
是冷的，所以比别的在更短的时间内结冻。

What did I do

Wǒ Zuò Le Shí Me
我做了什么

I got 3 bowls and labeled them hot, cold and warm. I mixed hot and cold water together to get each one to the right temperature. I used thermometer to make sure the cold water was at 40 F, warm at 70 F and hot at 100 F. I put them in the freezer side by side and checked the temperature every 10 minutes and recorded it in my notebook.

Wǒ Yòng Le Gè Wǎn Biāo Jì Rè Lěng Wēn Wǒ Bǎ Lěng Shuǐ
我用了3个碗，标记热，冷，温。我把冷水
Rè Shuǐ Hùn Hé Zài Yī Qí Měi Yī Gè Yǒu Hé Shì de Wēn Dù Wǒ
热水混合在一起，每一个有合适的温度。我
Yòng Wēn Dù Jì Yǐ Què Bǎo Lěng Shuǐ Zài Huá Shì Dù Wēn Shuǐ
用温度计，以确保冷水在华氏40度，温水
Shì Huá Shì Dù Hé Rè Shuǐ Shì Huá Shì Dù Wǒ Bǎ Tā
是华氏70度和热水是华氏100度。我把它
Mēn Bīng Pái Zài Lěng Dòng Xiāng Lǐ Měi Fēn Zhōng Jiǎn Chá Bìng Jì Lù Tā
们并排在冷冻箱里。每10分钟检查并记录它
de Wēn Dù Zài Wǒ de Bǐ Jì Běn Lǐ
的温度在我的笔记本里。

Observation

Wǒ Guān Chá Le
我观察了

I observed that the hot water cooled by almost 50% after the first ten minutes. It was cooling down very quickly. Both the warm and hot water froze to 32 F at 60 minutes and it took the cold water 20 minutes

Wǒ Guān Chá Dào Zài Dì Yī Gè Fēn Zhōng Nèi Rè Shuǐ Lěng Què
我观察到，在第一个10分钟内，热水冷却
Liǎo Bǎi Fēn Zhī Wǔ Shí Tā de Jiàng Wēn Sù Dù Fēi Cháng Kuài Wú Lùn
了百分之五十。它的降温速度非常快。无论
Shì Wēn Shuǐ Huò Rè Shuǐ Zài Fēn Zhōng Nèi Dòng Jié Dào Huá Shì
是温水或热水在60分钟内冻结到华氏32
Dù Dàn Shì Lěng Shuǐ Zhī Huā Liǎo Fēn Zhōng
度，但是冷水只花了20分钟

Conclusion

Wǒ de Jiē Lùn Shì
我的结论是

My hypothesis was correct. The cold water froze the fastest. It took 20 minutes for the cold water to freeze (reach 32 F) and it took the warm and hot water 60 minutes. On the internet some say that hot freeze faster but mine did not.

Wǒ de Jiǎ Shè Shì Zhèng Què de Lěng Shuǐ Dōng Jié de Sù Dù Zuì Kuài
我的假设是正确的。冷水冻结的速度最快。

Huā Liǎo Fēn Zhōng Lěng Shuǐ Dōng Jié Dá Dào Huá Shì 32° F
花了 20 分钟，冷水冻结（达到华氏 32° F

Dù Wēn Shuǐ Rè Shuǐ Xū Yào Fēn Zhōng Zài Hù Lián Wǎng
度），温水，热水需要 60 分钟。在互联网

Shàng Yǒu Rén Shuō Rè Shuǐ Dōng Jié Sù Dù Bǐ Jiào Kuài Dàn Wǒ de
上，有人说，热水冻结速度比较快，但我的

Què Bù Shì
却不是。